GCN GLOBAL COMMUNICATIONS NEWSLETTER

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INTERVIEW

IEEE ComSoc in the Europe, Middle East and Africa Region

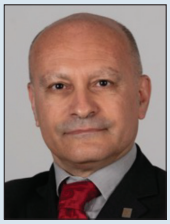
Interview with Luca Foschini, Director of the EMEA Region

by Stefano Bregni, Global Communications Newsletter Editor-in-Chief, Director Conference Operations, and Luca Foschini, Director of the EMEA Region

This article continues the series of nine interviews to the Officers of the IEEE ComSoc Member and Global Activities (MGA) Council, which is published every month on the Global Communications Newsletter.

In this series of articles, I introduce the Vice-President and the six Directors on the MGA Council (namely: Member Services, Industry Outreach, and AP, NA, LA, EMEA Regions), as well as the two Chairs of the Women in Communications Engineering (WICE) and Young Professionals (YP) Standing Committees. In each interview, one by one they present their sector activities and plans.

In this issue, I interview Luca Foschini, Director of the Europe, Middle East and Africa Region (EMEA).



Stefano Bregni

Luca Foschini

Luca is an associate professor at the University of Bologna, Italy, and he is also Director of the Center for Interdepartmental Research on ICT at the same university. He is the author or co-author of more than 65 journal/magazine articles and over 130 conference papers in the areas of network and service management, mobile computing, cloud/edge computing, and IIoT/Industry 4.0. He is serving/served as TPC Co-Chair in a number of IEEE ComSoc conferences and he is member of the editorial boards of IEEE Networking Letters and of IEEE Communications Surveys and Tutorials. He is and a member of the IEEE ComSoc Board of Governors as EMEA Region Director and he is also currently serving as secretary for the Communications Systems Integration and Modeling (CSIM) Technical Committee. He is an IEEE Senior Member.

I have been working with Luca for several years already. I have always appreciated his tremendous capacity, coupled with his integrity and vision on how ComSoc should serve Members. Now, let us start the interview and discover what's going on in the EMEA Region, which is also my Region.

Stefano: Hello Luca, we might begin outlining the main characteristics of the EMEA Region.

The EMEA Region covers a vast geographical area stretching from Cape Town, South Africa in the South, Lisbon, Portugal, in the West, through Hammerfest, Norway, in the North, to Vladivostok, Russia in the East. The Region is served by 54 local chapters having together more than one fifth of the ComSoc members worldwide. Chapters provide a local connection for our society members. Their activities include: talks organized within the Distinguished Lecturer Tour (DLT) or Distinguished Speaker Program (DSP) frameworks, Industrial Talks, Industry Panels, social events, workshops, seminars, special events, etc.

The Distinguished Lecturer Tour (DLT) and the Distinguished Speaker Program (DSP) have been always particularly appreciated by our Members, and also the virtual DL (vDL) talks, adopted during the pandemic period, have been quite successful. What is your perception of these Programs? How are they organized in the EMEA Region?

DLTs provide the means for ComSoc chapters to identify and arrange lectures by renowned experts on communications and networking-related topics. ComSoc's DSPs enable current and past distinguished lecturers as well as ComSoc officers, IEEE Fellows, and prominent speakers to schedule lectures while traveling on business trips. vDL talks allowed also to scale the number of members and the outreach, especially during pandemic peak periods. Although now we are working to reboot DLT and DSP in presence events, and indeed we have recently approved some of them organized by our EMEA Chapters, I believe vDL talks provide an opportunity also to Chapters with a low number of members, such as those in the Middle East and Africa, to organize such events and all our members to attend the talks. At the same time, organizing again physical talks (DLTs/DSPs) gives unvaluable networking and socializing opportunities to our members and the opportunity for ComSoc to advertise its activities. By no doubt, these are an excellent means to hire new members. Hence, we are planning to use unspent budget and available surplus to organize as many DLs as we can.

The EMEA Region Board assign Awards to recognize the contributions of its outstanding members. May you present that in some detail?

An important facet of the EMEA activities, coordinated by Claudio Fiandrino from Spain, is our Award Program that includes the EMEA Young Researcher Award and the EMEA Region Distinguished Service Award.

In 2021, the recipient of the EMEA Young Researcher Award was Yansha Deng from King's College London (UK), and we had also two Runner-Up Outstanding Young Researcher Awards, namely, Adrian Garcia-Rodriguez from the Mathematical & Algorithmic Sciences Lab - Huawei Technologies (France) and Marco Giordani from University of Padova (Italy).

The EMEA Region Distinguished Service Award was granted to Fabrizio Granelli from University of Trento (Italy).

What are the major challenges that you currently see in the EMEA Region?

We have two major challenges: one is the membership growth in our Region, and the other is increasing industry-academia cooperation.

The coordination of the latter is the responsibility of Saud Althunibat from Jordan. The task is not easy in the current business environment, taking into account industry restructuring, growing competition, and changes in the overall markets, but we are doing our best to strengthen the cooperation between the industry and the academia within the EMEA Region.

Along that line, I am continuing two initiatives started by the previous EMEA Director, Christos Verikoukis, aimed to close the gap between industry and academia in our Region and to engage people from industry to actively participate in our activities; Diomidis Michalopoulos from NOKIA Bell-Labs in Germany is leading these industry and academia cooperation efforts.

The first initiative is the industrial webinars/panels with the participation of experts from big and/or highly innovative telco and ICT companies such as Telefonica, Enel-X, Zenoh, etc; our members in the last years showed much interest in these webinars and we had a big audience at each event.

The second activity, coordinated by our Membership Development coordinators Marwa K. Qaraqe from Qatar and Mustapha Benjillali from Morocco, is the industry-students panel. We typically organize this panel at the end of the year in order to provide valuable feedback

(continued on next page)

on student research. Students present their work to panelists remotely, and the industry panelists judge their work based on industry interest, real problems, existing standards etc. This initiative was highly appreciated by our students, and we will open a call for participation in October, so, stay tuned!

Last, but not least, with Diomidis and in collaboration with the Young Professionals (YP) Committee, we are also implementing a brand new in-presence industry-student matching event at MeditCom 2022, that we want to scale-up and replicate in other ComSoc conferences held in R8 and in other regions.

Besides those EMEA Board Members who you have mentioned already, would you like to acknowledge the contribution of any other in particular?

I would like also to mention here three other people playing very important roles within the EMEA Board, namely: José Javier Berrocal Olmeda who serves as Member Services Board EMEA Voting Representative, Virginia Pilloni who is EMEA Representative in the YP Committee, and Anna Maria Vegni who is EMEA Representative in the WICE Committee.

Among the many activities that you are running, what will be the highlight in the next months?

As said before at MeditCom 2022 in Athens, Greece, we will organize the first EMEA industry-student matching event; then, we will work to possibly replicate it at ICC that will be held in our region, in Rome, Italy, in 2023.

CHAPTER REPORT

San Diego Chapter, USA: Better Connected in the Pandemic

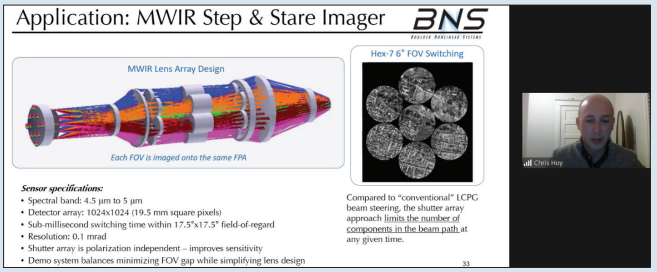
by Liangping Ma, Qualcomm Technologies, San Diego ComSoc Chapter Chair, USA

The COVID-19 pandemic, to say the least, has disrupted our normal lives, including holding and attending regular technical talks at a physical venue – an important part of the IEEE activities before the pandemic that had greatly benefited the IEEE members. Shortly after the outbreak of the pandemic, the IEEE ComSoc San Diego chapter quickly moved all technical talks online. Thanks to the communication technologies owing much to the contributions from members of IEEE ComSoc, holding meetings online turned out to be beneficial in terms of better connecting the speakers, the attendees, and the organizers, and overcoming geographical barriers.

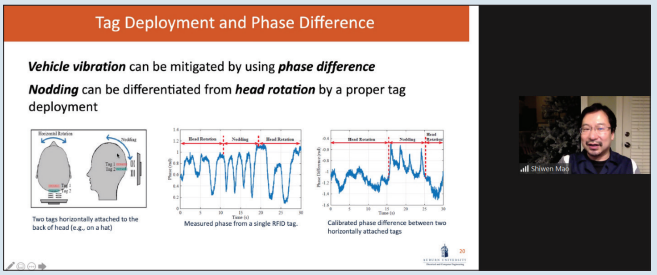
The online platform made it much easier to invite speakers who otherwise might find it difficult to make time to travel. On March 23, 2021, with a joint invite of the ComSoc, Photonics, and Vehicular Technology Society San Diego chapters, Dr. Christopher Hoy, Vice President of Business Development & Technology Integration at Boulder Nonlinear Systems, Inc., Colorado, delivered a talk titled "Non-mechanical Optical Beam Steering with Polarization Gratings" remotely on Zoom. Dr. Hoy introduced the design and development of non-mechanical beam steering systems based on liquid crystal polarization gratings (LCPGs), which offered unique advantages, such as smaller size, weight and power, and having lower maintenance issues due to being inertial-less, over the traditional mechanical steering approach, and presented a few use cases including a time-of-flight camera, a coherent Doppler lidar and a midwave infrared (MWIR) broadband passive imager. Dr. Hoy answered many questions from the audience such as the switching speed, and pointed out some interesting techniques, for example, increasing the switching speed by increasing the temperature of the liquid crystal.

During the pandemic, the popular Distinguished Lecturer Tour (DLT) program became virtual out of safety concerns. The ComSoc San Diego chapter, in collaboration with the ComSoc Atlanta chapter, invited Prof. Shiwen Mao of Auburn University, Alabama, for a talk "RFID based Driving Fatigue Detection" on July 1, 2021. Prof. Mao presented his work that exploited radio frequency identification (RFID) tags as low-cost wearable sensors for driving fatigue detection. The research was carried out in an inter-disciplinary approach, spanning signal processing, communication, machine learning and data science. The audience were exposed to novel tools in machine learning and data science, not typically seen in ComSoc technical talks. The applications generated strong interests from the audience and the talk was very interactive.

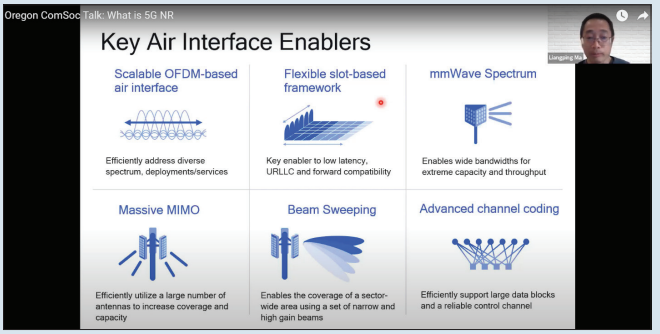
The online platform made it convenient not only to invite speakers, but also to give talks. As a ComSoc DL, I delivered a talk titled "What is 5G NR?" to the ComSoc Oregon chapter on January 12, 2021. In the talk, I introduced the fundamental building blocks of the 5G radio access network, or the New Radio (NR). The audience asked a wide range of questions about topics such as beam management,



Dr. Chris Hoy presenting the MWIR use case enabled by LCPGs



Prof. Shiwen Mao presenting "RFID based driving fatigue detection"



Dr. Liangping Ma presenting the fundamental building blocks of 5G NR

bandwidth parts, and quality of service (QoS), on both standards and deployment aspects. I felt that the virtual DL talk was just as effective as physical DL talks that I had delivered before. Additionally, I did not have to go through the travel, which was time consuming and costly, relatively speaking.

Another benefit of the online meeting platforms is that, with cross advertising of events, the IEEE ComSoc San Diego chapter opens the opportunities for its members to access many more technical talks, and the same is true for ComSoc chapters at other locations.

There certainly is room for improvement for the online meeting platforms, for example, the lack of immersive experience of being in a physical conference room. It is not clear when immersive online meeting will be commercially available. But one thing for sure is that ComSoc members will play an important role in developing the needed technology, and it is reasonable to believe that we will be even better connected in the near future, even after the end of the pandemic.

CHAPTER REPORT

IEEE ComSoc Central Texas – Austin Chapter, USA

Winner of the 2021 Chapter Achievement Award

by Fawzi Behmann, Austin Chapter Chair, USA

On behalf of the Austin Chapter leadership team and members we express our deep appreciation for ComSoc awarding the Austin Chapter for 2021 North America Region (R1-7) Chapter Achievement Award.

We are also pleased to report that Austin Chapter has received Regional Chapter Achievement Award (CAA) and Chapter of the Year Award (CoY) for the years 2015, 2017 and 2020.

I'd like to share some of the factors that helped us to serve the member and community at large.

Contribution to IEEE ComSoc Chapter

One simple principal we have used consistently is to set clear vision, theme and direction at the beginning of each year. It has been important to collect feedback after each meeting assessing the usefulness, quality of the topic and delivery for each session. We also ask for suggestions for future topical areas and suggested speakers. This input enable the chapter officers to build a particular theme for each year and build pipeline foe topics and speakers and other areas that build a strong dialogue and network among members.

Secondly, we are proud that our chapter has expanded to be a joint chapter with Signal Processing and Consumer Technology and that open the diversity of the topical areas and applications.

Typically, we meet at least monthly at AT&T Labs in Austin where AT&T has been a great supporter to IEEE and the host/sponsor to our meetings for many years. This relationship has grown over the years and provided a relaxed environment for meeting and networking opportunities.

We learned to be flexible and adaptable to changes. This was evident when COVID-19 came and disrupted our normal practices that we ended up not able to assemble physically. But quickly we resorted to virtual connection, expand the coverage and opportunity to connect with local communities and collaborate around interesting topics.

The joint chapter executive team organized a planning meeting at the beginning of the year, and established the theme and key objectives of the year "Disruptive technologies and impact in key markets."

The Austin ComSoc (joint with Signal Processing and Consumer Technology) conducted 33 meetings: 3-Adminstrative, 2-professional and 28-Technical meetings. Among the key technical topics: SDN/NFV and 5G, Elastic Optical Networks, AI and Mobile Edge Computing, Smart Cities/Societies, Reconfigurable Intelligent Surfaces, 5G/6G Security, Deep Learning in Computer Vision, IoT Collaborative Technologies and others. The vast majority of the technical virtual meetings leveraged the Distinguished Lecture Program introduced by ComSoc.

Among the services offered to members include promoting membership development & benefits and member elevation. Implemented student outreach program at Texas State for hands-on IoT outreach project. The project consisted of 4 student team, lecturer, faculty advisor and IEEE host. The project demo was part of senior design day.

Contribution to IEEE NAB and ComSoc

The chapter chair had opportunity being North America Regional Director to share some of the best practices inspiring the other 94 chapter chairs in R1-R7 serving close to 10,000 members. Among the examples: Introduced chapter vitality with 12 quarterly check list, and encouraged collaboration among chapters leveraging the new Virtual Distinguished Lecture (VDL) Program. Proposed and implemented 'membership development of 3-minute promotion prior to the Q&A segment VDL session promoting membership benefits.

Leveraged chapter survey for Austin and expand and collected valuable data that helped build agenda for the RCCC program for the region.

As chapter chair, NA regional director and member of the BoG, extended reach to support other regions by help defining strategy and framework to transform the DLT/DSP program to a virtual format across the 10 regions. Collaborated with ComSoc and defined

ComSoc Austin Chapter meeting at AT&T, Feb 2020.

ComSoc-Consumer Technology support at ICCE, Jan 2020.

ComSoc Austin participation in Univ. Maine Virtual Panel on AI - Nov. 2020

the implementation process, operational procedures and training. Initially, 29 DLs and 62 chapters participated in the VDL program. Later it was expanded to include 51 DLs and all the 216 chapter chairs.

Section, & Regional Support

As a chapter chair reported chapter activities twice a year at CTS Section ExCom & Secom. Participated at the section ExCom monthly call serving as past section chair, conference & professional activities chair. Attended Regional ExCom as past R5 Conference committee chair. Defined several initiatives for Outreach student competition projects, increase Industry outreach and collaborated with ComSoc marketing for website support.

Other IEEE Outreach Experience

As chapter chair and general chair of WCNC 2022 that will be held in Austin, build Organizing committee based on qualified resources from Austin and field of expertise from other regions. For example, the local arrangement co-chairs, and operations co-chairs, Finance and some TPC chairs and industry program are local.

This helped expand and connect with individuals from other regions to form a cohesive OC committee.

As a distinguished Lecturer, reached out and spoke to many IEEE communities in 2020 in Kenya, Estonia, WF 5G (India), Ecuador, Trois Reverie/Quebec, Windsor, Seattle, Vancouver, Victoria, and others. As a distinguished speaker delivered virtual talk to the Maine section on AI and Blockchain.

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REGIONAL REPORT

ComSoc Members Role in Current Challenges: The 5G and Radio Altimeters Interference Problem

by Andres Navarro, Director of the Latin America Region

During last months, we have seen some news regarding the problems issued by aeronautical industry because of the interference caused by 5G systems in the C band (3400-4200 MHz) in the United States. Just last week, on February 23, 2022, the FAA issued an Airworthiness Directive for airports and airplanes that can suffer from interference by 5G systems. Although the allocation of this band to IMT systems was extensively discussed in different regulatory forums (ITU, CITEL, CEPT, APT, etc) and the band was initially allocated for IMT during the WRC-07 by some countries (ITU Region 2 and Region 3) and discussed again during WRC-19 and allocated as primary basis finally, with differences in the frequency range, most of the discussions were focused on possible interference to the satellite service. Only the ICAO and some regulators raises a concern about possible interference with radio altimeters, which is paradoxical because it was a security issue. In 3GPP, these bands appear as 3GPP band n77 (3300–4200 MHz) and 3GPP band n78 (3300–3800 MHz). Currently many countries are deploying networks in these bands, therefore is possible that similar concerns raise again in the near future when more countries start to deploy 5G networks using this band around the world. In the EU, this issue is under study by the ECC PT1.

Then, the question is why, after more that 10 years of technical discussions and coexistence analysis, we have complains from airlines? Some discussions regarding this issue can be found in the Comsoc techblog (https://techblog.comsoc.org/2021/12/07/faa-order-to-avoid-interfering-with-5g-c-band-services-rootmetrics-touts-coverage-vs-performance-advantages-for-5g/) and references cited in this blog, as well as in https://www.aviationtoday.com/2022/02/04/podcast-ieees-david-witkowski-talks-5g-c-band-aircraft-radio-altimeter-interference. Additionally, after a search in different academic tools like IEEEXplore and Google Scholar, using search terms like "interference studies 5G networks in 3500MHz band" and "C band coexistence studies radio altimeter", most of the results were oriented to issues related with satellite systems. Using the search term "radio altimeter interference C band" better results were obtained, but most of them refer to the Wireless Avionics Intra Communications Networks (WAIC). Just some papers in IEEEXplore refer to this specific problem, and others refers to radio altimeters but in other scenario (WAIC). Other coexistence studies refer to general issues and mainly to the Fixed Satellite Service (FSS). Even a recent report from APT refers basically to possible interference with FSS, but a document from IATA, issued in 2020 refers to this interference issue as a safety risk and mention an example case in Israel.

In Latin America, countries like Chile and Uruguay already have 5G networks operating in 3500 MHz band. Mexico and Brazil recently auctioned the band. Colombia and other countries are in the process to auction the band and start the deployment, after some pilots to check coverage and capacity. Therefore, we expect to have 5G networks in 3500MHz band operating alongside Latin America during 2022, and we need to be aware of possible interference issues.

The motivation for this message in GCN is to raise the importance of our role as communications engineers and Comsoc members to support national regulators in these technical aspects. Some of us probably are working in regulatory issues or in interference analysis, or just have an informed opinion about this. Also, it is a good opportunity to organize seminars or forums with student chapters to raise the issue and disseminate information about some of the roles of our technical society and communications engineers in such important matter like the aviation safety.

I want to invite our global Comsoc members to check the situation in their countries (3500 MHz band allocation and auction process) and foresee possible interference problems in the near future and report to us using the communication channels we have in the different regions. Our communications team will be glad to include these discussions and news from different countries in our communications channels.

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AUSTIN CHAPTER/*Continued from page 3*

Among other initiatives: Supported IEEE INGR 2020 – Future Networking Roadmap in two working areas: Security and Applications & Services. Co-chaired 2020 WF 5G, sand made two presentations on IoT/AI/5G and Smart Cities.

COMMUNITY OUTREACH INITIATIVES

As a part of community outreach held a special talk to members of the Texas Mackintosh user group, and provided services to Round Rock School District STEM Program. Collaborated with Intelligent Health Association and participated in a couple of panels at HTLH virtual conference and TechAfrica virtual conference.

AWARDS & RECOGNITIONS

The chapter and leadership were recognized for their roles and contributions to the members, section and region.

- IEEE Central Texas Section – Appreciation Award – Visionary leadership section chair 2018-2019
- IEEE USA Regional Professional Leadership Award for 2017
- IEEE Communications Society – 2015, 2017, 2020 Central Texas (Austin) Global Chapter-of-the-Year Award (212 Chapters)
- IEEE Communications Society – 2015, 2017, 2020 Central Texas (Austin) NA Chapter Achievement Award (92 Chapters)
- IEEE Region 5 Outstanding Member Award for 2013, 2014 and 2015

In summary, we are proud for the outstanding and passionate services that Austin chapter has provided to members, grow membership, collaborate with the section and region, maximize the benefits of ComSoc Virtual Distinguished Lecture Program, became the core entity organizing and executing WCNC 2022 conference collaborating with the regions worldwide.